

We Claim:

1. A composition comprising; a polymer system susceptible to degradation upon exposure to an ejaculate.
- 5 2. The composition of claim 1, wherein said polymer system comprises a degradable sequence.
- 10 3. The composition of claim 2, wherein said degradable sequence is susceptible to degradation of the type selected from the group consisting of chemical, physical and enzymatic.
- 15 4. The composition of claim 3, wherein said chemical degradation is caused by an agent selected from the group consisting of esters, acids, bases, alcohols and chelating agents.
- 20 5. The composition of claim 3, wherein said physical degradation is caused by a change selected from the group consisting of pH, ionic strength, temperature, pressure and sheer stress.
- 25 6. The composition of claim 3, wherein said enzymatic degradation is caused by an enzyme selected from the group selected from proteolytic enzymes, non-proteolytic enzymes and hydrolytic enzymes.
- 30 7. The composition of claim 6, wherein said proteolytic enzymes are selected from the group consisting of peptidases, hyaluronidases, alpha glucosidases, beta glucosidases, lysophospholipases, lysozymes, mannosidases, pepsinogen I, pepsinogen II, pepsinogen III and phospholipase.
- 35 8. The composition of claim 1, wherein said degradation results in a change in viscosity of said polymer system.
- 40 9. The composition of claim 8, wherein said decreased viscosity results in a gel to sol transition.
- 45 10. The composition of claim 1, wherein said polymer system includes polymers selected from the group consisting of monomer filaments, polymer filaments, modified polymers, water soluble synthetic polymers, water soluble natural polymers, acrylate based polymers, co-polymers, block co-polymers, hydrophobic degradable polymers, oligomers of hydrophobic degradable polymers and self-assembling amphiphilic monomers.
11. The composition of claim 1, further comprising mucoadhesive moieties in the polymer backbone.
12. The composition of claim 1, wherein said polymer system includes triblock copolymers of polyethylene oxide and polypropylene oxide polymerized with

oligomeric or polymeric moieties containing anioinic groups with a pKa between 3 and 8.

- 5 13. The composition of claim 1, wherein said degradation occurs within seconds to days.
14. The composition of claim 1, further comprising microbicides.
- 10 15. The composition of claim 14, wherein said microbicides are released from said polymer system upon exposure to an ejaculate.
- 15 16. The composition of claim 14, wherein said microbicides are selected from the group consisting of entry inhibitors, fusion inhibitors, non-nucleoside reverse transcriptase inhibitors, nucleoside reverse transcriptase inhibitors, protease inhibitors, detergents, surfactants, spermicides, inhibitors of viral adsorption, inhibitors of viral proteases, antivirals, antibiotics, antifungals, anti-inflammatory, antivirals, antiparasitics, chemotherapeutics, antitoxins, immunotherapeutics, integrase inhibitors, birth control agents, fertility agents and hormone replacement agents.
- 20 17. A method comprising; administering to an individual a polymer system susceptible to degradation upon exposure to an ejaculate.
- 25 18. The method of claim 17, wherein said polymer system comprises a degradable sequence.
19. The method of claim 17, further comprising microbicides.
- 30 20. The method of claim 17, wherein said administration is for a purpose selected from the group consisting of prevention of fertility, promotion of fertility, prevention of a sexually transmitted disease, treatment of a sexually transmitted disease and hormone replacement.
- 35 21. A method for delivering microbicides to an individual upon exposure to an ejaculate, said method comprising;
- 40 (a) providing a polymer system susceptible to degradation upon exposure to an ejaculate, wherein said polymer system contains microbicides to be released upon degradation, and
- (b) contacting said polymer system to a cavity selected from the group consisting of the oral, vaginal and anal cavities.
- 45 22. The method of claim 21, wherein said polymer system comprises a degradable sequence.
23. A composition comprising;

a polymer system wherein upon application to a cavity selected from the group consisting of oral, vaginal and anal cavities, the composition forms a gel susceptible to degradation upon exposure to an ejaculate.

5 24. A polymer system comprising;

10 two polymers wherein one polymer contains α -hydroxy acids susceptible to degradation upon an increase in pH upon exposure to an ejaculate wherein said polymer system experiences a reduction in viscosity in response to said increase in pH.

25. A polymer system comprising;

15 one or more polymers sensitive to alterations in pH wherein at an average pH found in the vaginal cavity said polymer system is a gel and wherein at an average pH found in the presence of an ejaculate, said polymer system experiences a reduction in viscosity.

20 26. A polymer system comprising;

one or more polymers connected by crosslinking wherein said crosslinking is susceptible to degradation upon exposure to an ejaculate.

25 27. The polymer system of claim 26, wherein said degradation is due to Prostate Specific Antigen in said ejaculate.

28. A composition comprising;

30 a polymer system susceptible to degradation by an ejaculate, said degradation of the type selected from the group consisting of chemical, physical and enzymatic.

35 29. The composition of claim 28, wherein further comprising degradable sequences.

30. The composition of claim 28, wherein said polymer system further comprises microbicides.